



PvuI (7)
SgfI (6) 1 GGATCTGGATCGCTCCGGTGCCCGTCAGTGGGAGAGCGCACATCGCCACAGTCCCGGAGAAGTTGGGGGAGGGGTGGCAATTGAACGGGTGCCTA **MfeI (82)**

101 GAGAAGTGGCGCGGGTAAACTGGAAAGTGTGTCTGTACTGGTCCGCCTTTTCCGAGGGTGGGGGAGAACCCTATATAAGTGCAGTAGTCGCC

Psp1406I (203) 201 GTGAACGTTCTTTTTCGCAACGGGTTTGCCGCCAGAACACAGCTGAAGCTTCGAGGGCTCGCATCTCTCTTACGCGCCCGCCCTACCTGAGGCC **HindIII (245)**

301 GCCATCCACGCGGGTTGAGTCGCGTTTCTGCCGCCTCCCGCTGTGGTGCCTCCTGAAGTCGCTCCGCCGTCTAGGTAAGTTTAAAGCTCAGGTCGAGACC

401 GGGCCTTTGTCCGGCGCTCCCTTGAGCGCTACCTAGACTCAGCCGGCTCTCCACGCTTTGCTGACCCTGCTTCTCAACTCTACGCTTTTGTTCGTTT **NgoMIV (441)**

501 TCTGTTTCTGCGCCGTTACAGATCCAAGCTGTGACCGGGCGCTACCTGAGATCACCGGCTCCGGACACCATGGCTGCAACGGTGGAGGGCCAGAGCTGGA **KasI (535)** **BspEI (558)** **NcoI (566)**
1▶ M A A T V E G P E L E

601 GGCAGCTGCTGCCGAGGAGATGCTTCAGAGGATTCGGACGCAGGGTCCAGGGCGCTGCCTTTCTGGGCGCAACCGGCTGAGCTTGGACCTGTACCCC **XmaI (697)**
11▶ A A A A A G D A S E D S D A G S R A L P F L G G N R L S L D L Y P

701 GGGGCTGCCAGCAGCTGCTGCACCTGTGTGTCAGCAGCCTCTCAGCTGCTGCAGGTGGAATCTTGGCTGTGAGCACTCACGAGGACCTCAGCTGC **EcoRI (760)**
45▶ G G C Q Q L L H L C V Q Q P L Q L L Q V E F L R L S T H E D P Q L

801 TGGAGGCCACCTGGCCAGCTGCCTCAGAGCCTGTCTGCTCCGCTCCCTGGTCTCAAAGGAGGGCAACCGCGGGACACTGGGTGCTCTCCG **DraIII (881)**
78▶ L E A T L A Q L P Q S L S C L R S L V L K G G Q R R D T L G A C L R

901 GGGTGCCTGACCAACCTGCCCGCTGGTCTGAGTGGCCTGGCCCATCTGGCCACCTGGACCTGAGCTTCAACAGCCTGGAGACACTGCCGCGCTGTCTC **SfiI (939)** **NgoMIV (987)**
111▶ G A L T N L P A G L S G L A H L A H L D L S F N S L E T L P A C V

1001 CTGCAGATGCGAGGTCTGGTGCCTCTGCTGTCTCAACAACCTCCTGAGCTGCCTGAGGCTCTGGGGCCCTCCCGCCCTCACCTCCTCACAG **SfiI (939)**
145▶ L Q M R G L G A L L L S H N C L S E L P E A L G A L P A L T F L T

1101 TGACACAAACCGCTGCAGACGCTGCCCCAGCACTGGGGCCCTATCCACCCTGCAGCGCCTGCATCTCTCAGAATCTGCTGGACACGCTACCTCC **NgoMIV (987)**
178▶ V T H N R L Q T L P P A L G A L S T L Q R L D L S Q N L L D T L P P

1201 TGAGATTGGAGGCTGGGAGCCTCCTGGAGCTCAACCTGGCCTCCAACCGGCTGCAGAGCCTCCAGCCTCTTGGCGGGACTTCGGTCTTCCGGCTC **PshAI (1280)**
211▶ E I G G L G S L L E L N L A S N R L Q S L P A S L A G L R S L R L

1301 CTTGCTGCACAGCAACCTCCTGGCCTCTGTGCCAGTGAATTTGGCCCGCTTCCACTCCTCACCCGCTCGACCTGAGGGACAACAGCTCCGGGACC **PshAI (1280)**
245▶ L V L H S N L L A S V P A D L A R L P L L T R L D L R D N Q L R D

1401 TGCCCCCTGAGCTGCTAGACGCCCCCTTGTGCGCCTGCAGGGGAACCCCTGGGTGAGGCTCGCCAGACGCCCCGAGTTCACCAGTGGCAGCCCTCAT **SdaI (1434)**
278▶ L P P E L L D A P F V R L Q G N P L G E A S P D A P S S P V A A L I

1501 TCCAGAAATGCCAGACTGTTCTGACCTCAGATTTGGACAGCTTTCCTGTGACCCCTCGAGGCTGCTCAGTGACCCTGGCCTGTGGCGTCCGCCTCGAG **XhoI (1556)**
311▶ P E M P R L F L T S D L D S F P V T P R G C S V T L A C G V R L Q

1601 TTCCAGCGGGAGCCACCGCCACCCCATCACCATCCGCTATCGGCTGCTGCTGCCGAGCCAGGCTCGTCCCCCTGGGTCTCATGACGCCCTGCTCA **BspHI (1683)**
345▶ F P A G A T A T P I T I R Y R L L L P E P G L V P L G P H D A L L

1701 GCCATGTGCTGGAGCTGCAGCCCATGGGGTGGCCTTCCAGCAGGATGTGGGGCTGTGGCTGCTTTCACCCACCGCAGGCCCCGGGCTGCCGTGAAGT **NcoI (1722)**
378▶ S H V L E L Q P H G V A F Q Q D V G L W L L F T P P Q A R R C R E V

1801 GGTGGTCAAGACCCGAATGACAACAGCTGGGGTGACCTGGAGACCTACCTGGAGGAAGAGGCCACCCAGCGGCTCTGGGCTCACTGCCAGGTGCCCCAC **BstEII (1831)**
411▶ V V R T R N D N S W G D L E T Y L E E E A P Q R L W A H C Q V P H

1901 TTCTCCTGGTTCCTTGTGGTTTCCCGCCCTGTGTTCAATGCCTGGTGCACCGGAGGGGACACTGCTGTCTCCTGGGTATCCTGGGGTCAAAG **BstEII (1831)**
445▶ F S W F L V V S R P V S N A C L V P P E G T L L C S S G H P G V K

2001 TCATCTTCCCCCTGGGGCCACTGAGGAGCCTGCTCGAGTCTCCATGCAGGTGGTGGCATGGCTGGCCGAGAGCTGCAGGCCCTCCTGGGAGAACCAGA **FspI (2054)**
478▶ V I F P P G A T E E P R R V S M Q V V R M A G R E L Q A L L G E P E

2101 GGCTGCAGTGAACCCCTGCTGTGCTGTACAGAGCGGTCCCCCAGCTTCCCAACCGGTACCGTGCAGCTGCCTCTGCCCTTGGCATCACAGGC **BstEII (2160)** **AgeI (2157)**
511▶ A A V S P L L C L S Q S G P P S F L Q P V T V Q L P L P S G I T G

2201 CTCAGTCTGGACCGCTCCCGCTGCACCTGTTGTACTGGGCCCTCCTGCAGCCACTGGGATGACATCACAGCTCAGGTGGTCTGGAGCTACCCACC **BstEII (2160)**
545▶ L S L D R S R L H L L Y W A P P A A T W D D I T A Q V V L E L T H

2301 TGTACGCACGCTTCCAGGTCACACACTTCTCCTGGTACTGGCTCTGGTACACCACCAAGAAGTGTGGGAGGCTGGCTCGGAAGGCTGGGAGCGGCT **AgeI (2157)**
578▶ L Y A R F Q V T H F S W Y W L W Y T T K N C V G G L A R K A W E R L

2401 GCGGCTGCACCGTGTGAACCTCATCGCTCTGCAGCGGGCCGGGACCCTGAGCAGGTCCTGCTGCAGTGCCTGCCCGAAACAAGGTGGACGCCACCCTT **DraIII (2407)** **KasI (2435)**
611▶ R L H R V N L I A L Q R R R D P E Q V L L Q C L P R N K V D A T L

2501 CGGCGCTGCTGGAGCGGTACCGGGCCCGGAGCCTCTGACACGGTGGAGATGTTTCAGGGCGAAGAGTTCTTTGGCGCTTCGAGCGCGGCATTGACC **Acc65I (2516)**
645▶ R R L L E R Y R G P E P S D T V E M F E G E E F F A A F E R G I D

2601 TGGATGCTGACCGCCCTGACTGTGTGGAGGGCAGAATCTGCTTTGCTTCTACTCGCACCTGAAGAATGTGAAGGAGGTATACGTGACCACCCTGGA
678▶V D A D R P D C V E G R I C F V F Y S H L K N V K E V Y V T T L D
2701 CCGGGAGGCTCAGGCTGTGCGGGGCCAGGTGTCTTCTACCGTGGCGGTGCCTGTGCGGGTCCCGAGGAGCTGAGGCTGCCCGCAGAGGAAGGC
711▶R E A Q A V R G Q V S F Y R G A V P V R V P E E A E A A R Q R K G
2801 GCAGACGCCCTGTGGATGGCCACTCTGCCCATCAAGCTGCCGAGACTTCGAGGGTCCGAGGGGCCACGGCGGGGGCTGGCCTCTCCTTGGCACCTTGA
745▶A D A L W M A T L P I K L P R L R G S E G P R R G A G L S L A P L
2901 ATCTGGGAGATGCCGAGACCGCTTTCTGACGCAGAGCAACCTGCTGAGTGTGGCTGGCGTCTGGGTCTGGACTGGCCAGCCGTGGCCCTGCACCTGGG
778▶N L G D A E T G F L T Q S N L L S V A G R L G L D W P A V A L H L G
3001 GGTGTCCTACCGGAGGTGCAGCGCATCCGGCAGAGTCCGGGATGATCTGGATGAGCAGATCCGTACATGCTCTTCTCTGGGCTGAGCGCCAGGCT
811▶V S Y R E V Q R I R H E F R D D L D E Q I R H M L F S W A E R Q A
3101 GGGCAGCCAGGGCTGTGGGCTCTGGTGCAGGCCCTGGAGCAGAGTACCGGCAGGACGTGGCTGAAGAGGTGCGCGCAGTCTGGAGCTCGGCCG
845▶G Q P G A V G L L V Q A L E Q S D R Q D V A E E V R A V L E L G R
3201 GCAAGTACCAGGACAGCATCCGACGCATGGGCTTGGCCCCAAGGACCCGCTCTGCCTGGCTCCTCGCTCCACAGCCCCAGAGCCTGCCAGGCCTA
878▶R K Y Q D S I R R M G L A P K D P A L P G S S A P Q P P E P A Q A •
3301 GGCCCCACAGACTTTTAGGCTGGCCAGATGCTAGCTGGCCAGACATGATAAGATACATTGATGAGTTTGGACAAACCACAACAGATAAGCAGTGA
911▶
3401 AATGCTTTATTTGTGAAATTTGTGATGCTATTGCTTTATTTGTAACCATTATAAGCTGCAATAAACAAGTTAAACAACAACATTGCATTCATTTATGTT
3501 TCAGGTTACAGGGGAGGTGTGGGAGGTTTTTAAAGCAAGTAAACCTCTACAAATGTGGTATGGAATTCTAAATACAGCATAGCAAACTTTAACCTC
3601 CAAATCAAGCCTCTACTTGAATCCTTTCTGAGGGATGAATAAGGCATAGGCATCAGGGGCTGTTGCCAATGTGCATTAGCTGTTTGCAGCCTCACCTC
3701 TTTATGGAGTTAAGATATAGTGATTTTCCCAAGTGTGAACTAGCTCTTCATTTCTTTATGTTTTAAATGCACTGACCTCCACATTCCCTTTTATG
3801 TAAAAATTCAGAAATAATTTAAATACATCATTGCAATGAAAATAAATGTTTTTATTAGGCAGAATCCAGATGCTCAAGGCCCTTCATAATATCCCCA
3901 GTTTAGTAGTTGGACTTAGGGAACAAGGAACCTTAAATAGAATTTGGACAGCAAGAAAGCGAGCTTCTAGCTTTAGTTCCTGGTGTACTTGAGGGGGAT
4001 GAGTTCCTCAATGGTGGTTTTGACCAGCTTGCATTCTCAATGAGCACAAGCAGTCAAGGAGCATAGTCAGAGATGAGCTCTGCACATGCCACAG
132▶L E E I T T K V L K G N M E I L V F C D P A Y D S I L E R C M G C
4101 GGGCTGACCACCTGATGGATCTGTCCACCTCATCAGAGTAGGGTGCCTGACAGCCACAATGGTGTCAAAGTCTTCTGCCGTTGCTCACAGCAGACC
98▶P S V V R I S R D V E D S Y P H R V A V I T D F D K Q G N S V A S G
4201 CAATGGCAATGGCTTACAGCAGACAGTACCCTGCCAATGTAGGCCTCAATGTGGACAGCAGAGATGATCTCCCAAGTCTTGGTCTGATGGCCGCCCC
65▶I A I A E A C V T V R G I Y A E I H V A S I I E G T K T R I A A G
4301 GACATGGTCTTGTGTCCTCATAGAGCATGGTGTCTTCTCAGTGGCGACCTCCACCAGCTCCAGATCCTGCTGAGAGATGTTGAAGGTCTTCATGGTG
32▶V H H K N D E Y L M T I K E T A V E V L E L D Q Q S I N F T K M
4401 GCCCTCTATAGTGAGTCGTATTATACTATGCCGATATACTATGCCGATGATTAATTGTCAAACAGCGTGGATGGCGTCTCCAGCTIATCTGACGGTTC
4501 ACTAAACGAGCTCTGCTTATATAGACCTCCACCGTACACGCCTACCGCCATTTGCGTCAATGGGGCGGAGTTGTTACGACATTTTGGAAAGTCCCCTT
4601 GATTTACTAGTCAAACAAACTCCCATGACGTCAATGGGGTGGAGACTTGGAAATCCCCGTGAGTCAAACCGCTATCCACGCCATTGATGTACTGCCA
4701 AAACCGCATCATCATGGTAATAGCGATGACTAATACGTAGATGTACTGCCAAGTAGGAAAGTCCATAAGGTCATGTAAGTGGCATAATGCCAGGCGGGC
4801 CATTACCCTGATTGACGTCAATAGGGGGCTACTTGGCATATGATACACTTGTACTGCAAGTGGGAGTTCACCGTAAATACTCCACCCATTGAC
4901 GTCATGGAAAGTCCCTATTGGCGTTACTATGGGAACATACGTCATTATTGACGTCAATGGCGGGGGTCTGGTGGCGGTGAGCCAGGCGGGCCATTAC
5001 CGTAAGTTATGTAACGCCCTGCAGGTTAAATTAAGAACAATGTGAGCAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAGCCGCTTGTGGCGTTTTTCC
5101 ATAGGCTCCGCCCCCTGACGAGCATCACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGATACCAGGCTTTCCCTGG
5201 AAGCTCCCTCGTGCCTCTCTGTTCCGACCTGCCGCTTACCGGATACCTGTCCGCTTTCTCCCTTCCGGAAGCGTGGCGCTTTCTCATAGCTCACGC
5301 TGTAGGTATCTCAGTTCCGGTGTAGGTGCTTCCGCTCAAGCTGGGCTGTGTGCACGAACCCCCGTTCCAGCCGACCGCTGCGCTTATCCGGTAACTATC
5401 GTCTTGTAGTCAACCCGTAAGACACGACTTATCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGCGGTGCTACAGAGTT
5501 CTTGAAGTGGTGGCCTAACTACGGCTACACTAGAAGAACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAGAGTTGGTAGCTCT

5601 TGATCCGGCAAACAACCACCGCTGGTAGCGGTGGTTTTTTTTGTTTGAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAAGATCCTTTGATCT

5701 TTTCTACGGGGTCTGACGCTCAGTGAACGAAACTCACGTAAAGGGATTTTGGTCATGGCTAGTTAATTAACATTTAAATC AGCGGCCGCAATAAAATA

5801 TCTTTATTTTCATTACATCTGTGTGTTGGTTTTTTGTGTGAATCGTAACTAACATACGCTCTCCATCAAAACAAAACGAAACAAAACAACTAGCAAAT
5901 AGGCTGTCCCAGTGCAAGTGCAGGTGCCAGAACATTTCTCTATCGAA

EagI (5784)
PacI (5764) SwaI (5773) NotI (5783)